

## EXHIBIT A

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## UNITED STATES PATENT AND TRADEMARK OFFICE

UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND  
DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

JUNE 29, 2004

PTAS

MYERS BIGEL SIBLEY & SAJOVEC  
ROBERET M. MEEKS  
P.O. BOX 37428  
RALEIGH, NC 27627

\*102734860A\*

UNITED STATES PATENT AND TRADEMARK OFFICE  
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 11/17/2003

REEL/FRAME: 014787/0903  
NUMBER OF PAGES: 3

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

MOON, JANG-WON

DOC DATE: 10/29/2003

ASSIGNOR:

KIM, SUNG-HOON

DOC DATE: 10/29/2003

ASSIGNOR:

KIM, KYOUNG-HO

DOC DATE: 10/29/2003

ASSIGNOR:

KIM, JOUNG-YEAL

DOC DATE: 10/29/2003

ASSIGNOR:

SONG, HO-YOUNG

DOC DATE: 10/29/2003

07-07-04 A09:17 1H

P.O. Box 1450, Alexandria, Virginia 22313-1450 - www.USPTO.GOV

014787/0903 PAGE 2

ASSIGNEE:

SAMSUNG ELECTRONICS CO., LTD.  
416 MAETAN-DONG, PALDAL-GU  
SUWON-CITY, KYUNGKI-DO  
REPUBLIC  
OF KOREA

SERIAL NUMBER: 10715015

FILING DATE: 11/17/2003

PATENT NUMBER:

ISSUE DATE:

TITLE: VARIABLE-DELAY PRECHARGE CIRCUITS AND METHODS

MARY BENTON, EXAMINER  
ASSIGNMENT DIVISION  
OFFICE OF PUBLIC RECORDS

MAR. 17. 2006 12:28PM "919-854-1401 MBS&S MAR 17 2006 NO. 7032 P. P. 9/36

ASSIGNMENT RECORDATION FORM CO

06-28-2004

To: Commissioner for Patents

11-17-03



102734860

Date: November 17, 2003  
my Docket No. 5649-1098

Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

- A. Jang-won Moon
- B. Sung-hoon Kim
- C. Kyoung-ho Kim
- D. Joung-yeal Kim
- E. Ho-young Song

Additional name(s) of conveying party(ies) attached? Yes ☒ No

2. Name and address of receiving party(ies):

Samsung Electronics Co., Ltd.  
416 Maetan-dong, Paldal-gu  
Suwon-City, Kyungki-do  
REPUBLIC OF KOREA

17548 U.S. PTO  
10715015

3. Nature of conveyance:

- ☒ Assignment
- ☐ Merger
- ☐ Security Agreement
- ☐ Change of Name
- ☐ Other

Execution Date:

- A. October 29, 2003 B. October 29, 2003 C. October 29, 2003
- D. October 29, 2003 E. October 29, 2003

Additional name(s) & address(es) attached? Yes ☒ No

4. Application Serial No. Patent No.

10715015

If this document is being filed together with a new application, the execution date of the application is:

- A. October 29, 2003 B. October 29, 2003 C. October 29, 2003 D. October 29, 2003 E. October 29, 2003

Additional numbers attached? Yes ☒ No

5. Name and address of party to whom correspondence concerning document should be mailed:

Robert M. Meeks  
Myers Bigel Sibley & Sajovec  
P. O. Box 37428  
Raleigh NC 27627

6. Total number of applications and patents involved: 1

- 7. Total fee (37 CFR 3.41) \$40.00
- ☒ Enclosed
- ☐ Authorized to be charged to deposit account

8. Deposit account number: 50-0220

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9. Statement and signature

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Robert M. Meeks #40,723

Name of Person Signing

*[Signature]*

Signature

November 17, 2003

Date

Total number of pages including cover sheet, attachments and document: 3

1/20/2003 RHRRIS1 00000076 10715015

3 FC:8021

40.00 UP

## ASSIGNMENT

Attorney Docket 5649-1098

THIS ASSIGNMENT, made by us, Jang-won Moon, citizen of the Republic of Korea, residing at 404-805, Hangaram Silla Apt., Burim-dong, Dongan-gu, Anyang-city, Kyungki-do, Republic of Korea; Sung-hoon Kim, citizen of the Republic of Korea, residing at 101-304, Samsung Apt., Seohyun-dong (Sibeom danji), Bundang-gu, Sungnam-city, Kyungki-do, Republic of Korea; Kyoung-ho Kim, citizen of the Republic of Korea, residing at 813-1204, Hanshin Apt., Byukjeokgol 8-danji Apt., Youngtong-dong, Paldal-gu, Suwon-city, Kyungki-do, Republic of Korea; Joung-yeal Kim, citizen of the Republic of Korea, residing at 201-1601, Woncheon Joogong 2-danji Apt., Woncheon-dong, Paldal-gu, Suwon-city, Kyungki-do, Republic of Korea; and Ho-young Song, citizen of the Republic of Korea, residing at 1407, Marronier-dong, San 7-1, Nongseo-ri, Kiheung-eub, Yongin-city, Kyungki-do, Republic of Korea

WITNESSETH: That,

WHEREAS, we are the joint inventors of certain new and useful improvements in **VARIABLE-DELAY PRECHARGE CIRCUITS AND METHODS** for which an application for United States Letters Patent has been filed, or is being filed concurrently, in the United States Patent and Trademark Office. We hereby authorize and request Myers Bigel Sibley & Sajovec, P.A., to insert here in parentheses (Application No. \_\_\_\_\_, filed \_\_\_\_\_) the filing date and application number of said application when known or to file this Assignment concurrently with the application, and

WHEREAS, Samsung Electronics Co., Ltd., a Korean corporation having a principal place of business at 416 Maetan-dong, Paldal-gu, Suwon-City, Kyungki-do, Republic of Korea, hereinafter referred to as assignee, is desirous of acquiring the entire right, title and interest in and to said invention as described in said application, and in and to any and all Letters Patent which shall be granted therefor in the United States of America and all foreign countries;

NOW, THEREFORE, To Whom It May Concern, be it known that for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, we have sold and by these presents do hereby sell, assign, transfer and convey unto the said assignee, its successors and assigns, the entire right, title and interest in and to the said invention and application, and in and to any and all continuations, continuations-in-part, or divisions thereof, and in and to any and all Letters Patent of the United States of America and all foreign countries or reissues thereof which may be granted therefor or thereon, for the full end of the term for which said Letters Patent may be granted, together with the right to claim the

priority of said application in all foreign countries in accordance with the International Convention, the same to be held and enjoyed by said assignee, its successors and assigns, as fully and entirely as the same would have been held and enjoyed by us if this assignment and sale had not been made.

We hereby request that said Letters Patent be issued in accordance with this assignment.

We further covenant and agree that, at the time of the execution and delivery of these presents, we possess full title to the invention and application above-mentioned, and that we have the unencumbered right and authority to make this assignment.

We further covenant and agree to bind our heirs, legal representatives and assigns, promptly to communicate to said assignee or its representatives any facts known to us relating to said invention, to testify in any interference or legal proceedings involving said invention, to execute any additional papers which may be requested to confirm the right of the assignee, its representatives, successors or assigns to secure patent or similar protection for the said invention in all countries and to vest in the assignee complete title to the said invention and Letters Patent, without further compensation, but at the expense of said assignee, its successors, assigns and other legal representatives.

IN WITNESS WHEREOF, we have hereunto set our hands and seals on this \_\_\_\_\_ day of \_\_\_\_\_, 2003.

Jang won Moon  
Jang-won Moon

Sung-hoon Kim  
Sung-hoon Kim

Kyoung-ho Kim  
Kyoung-ho Kim

Jong Yeal Kim  
Jong-yeal Kim

Ho young Song  
Ho-young Song

Witnessed by:

Date: \_\_\_\_\_

Date: \_\_\_\_\_